

The Claims

1. (Currently Amended) A method for recovering a call resource from a call session, comprising:

during a call session comprising a plurality of media streams each communicated from one of a plurality of devices to a call resource via a communication network, detecting if a media stream communicated from a device to a call resource via a communication network one of the media streams becomes inactive during a call session;

in response to one of the media streams becoming inactive during the call session, deleting the media stream that has become inactive from the call session ~~if the media stream is inactive;~~

repeating the detecting and deleting steps detection and deletion of inactive media streams from the call session until only one media stream remains in the call session; and

in response to only one media stream remaining in the call session, terminating the one remaining media stream to release the call resource from the call session.

2. (Original) The method of Claim 1, further comprising:
establishing the call session between the call resource and a plurality of devices using a call manager, the call session comprising a plurality of media streams communicated from the plurality of devices; and

determining that the call manager has become unavailable.

3. (Original) The method of Claim 2, further comprising:
receiving signaling from an alternative call manager to establish a new call session;
and

establishing the new call session using the released call resource.

4. (Original) The method of Claim 2, further comprising:
receiving a remote on hold notification from at least one of the media streams in the call session; and

deleting the at least one media stream associated with the remote on hold notification from the call session.

5. (Original) The method of Claim 2, wherein detecting comprises prompting users at endpoints of the media streams to speak if packets are generated by only a single media stream for a predetermined amount of time.

6. (Original) The method of Claim 2, wherein detecting comprises prompting users at endpoints of the media streams to speak if at least two media streams are simultaneously and continuously generating packets for a predetermined amount of time.

7. (Original) The method of Claim 1, further comprising notifying a user at an endpoint of the one media stream that the call session is being terminated.

8. (Original) The method of Claim 1, wherein detecting comprises:
prompting a user at an endpoint of the media stream if one or more packets generated by the media stream indicate silence for a predetermined period of time; and
receiving the one or more packets that indicate voice activity if the user speaks in response to the prompt.

9. (Original) The method of Claim 1, wherein detecting comprises:
detecting if the media stream supports voice activity detection (VAD);
determining if the call resource received a silence insertion descriptor (SID) packet;
prompting a user at an endpoint of the media stream to speak if a timer expires and the call resource received the SID packet; and
receiving packets that indicate voice activity if the user speaks in response to the prompt.

10. (Original) The method of Claim 1, wherein detecting comprises:
detecting if the media stream supports voice activity detection (VAD);
determining that the call resource did not receive a silence insertion descriptor
(SID) packet; and
playing a prompt to a user at an endpoint of the media stream indicating that
the call session is terminating if the call resource did not receive at least one packet from the
media stream.

11. (Original) The method of Claim 1, wherein detecting comprises:
prompting a user at an endpoint of the media stream to speak if the media stream is
inactive; and
comparing a user response to the prompt using adaptive speech recognition.

12. (Original) A call resource, comprising:
a network port operable to communicate media streams between a plurality of devices in a call session;
a media processor coupled to the network port, the media processor operable to conduct the call session; and
a controller coupled to the network port, the controller operable to release the media processor from the call session if a call manager becomes unavailable and one device remains as a participant in the call session.

13. (Original) The call resource of Claim 12, the media processor further operable to:
receive the media streams from the devices;
mix media streams from the devices to generate a plurality of mixed media streams;
and
communicate the mixed media streams to the devices.

14. (Original) The call resource of Claim 13, wherein the media processor comprises a digital signal processor (DSP).

15. (Original) The call resource of Claim 12, wherein the controller is further operable to:
receive signaling from an alternative call manager to establish a new call session; and
establish the new call session using the media processor.

16. (Original) The call resource of Claim 12, wherein the controller is further operable to:
receive a remote on hold notification from at least one of the media streams in the call session; and
delete the at least one media stream associated with the remote on hold notification from the call session.

17. (Original) The call resource of Claim 12, wherein the controller is further operable to notify a user at the one device that the call session is being terminated.

18. (Original) The call resource of Claim 12, wherein the controller is further operable to:

prompt users at the devices if one or more packets indicate silence for a predetermined period of time; and

receive the one or more packets that indicate voice activity if the users speak in response to the prompt.

19. (Original) The call resource of Claim 12, wherein the controller is further operable to:

detect if the media streams support voice activity detection (VAD);

determine if a silence insertion descriptor (SID) packet was received from each of the media streams;

prompt users at the devices to speak if a timer expires and the SID packet was received during the call session; and

receive packets that indicate voice activity if the users speak in response to the prompt.

20. (Original) The call resource of Claim 12, wherein the controller is further operable to:

detect if the media streams support voice activity detection (VAD); and

determine if the call resource did not receive a silence insertion descriptor (SID) packet from each of the media streams; and

play a prompt to the users at the devices indicating that the call session is terminating if no packets were received from the media streams.

21. (Original) The call resource of Claim 12, wherein the controller is further operable to prompt users at the devices to speak if packets are generated by only a single media stream for a predetermined amount of time.

22. (Original) The call resource of Claim 12, wherein the controller is further operable to prompt users at the devices to speak if at least two media streams are simultaneously and continuously generating packets for a predetermined amount of time.

23. (Original) The call resource of Claim 12, further comprising an adaptive speech recognition (ASR) unit operable to analyze a response received on a media stream, wherein the controller is further operable to maintain the call session based on the response.

24. (Original) A communication system, comprising:
a plurality of devices operable to couple to a packet-based network;
a call manager operable to couple to the packet-based network, the call manager further operable to manage a call session between the devices; and
a call resource operable to couple to the packet-based network, the call resource further operable to:
exchange a plurality of media streams between the devices participating in the call session; and
terminate the call session if the call manager becomes unavailable and one device remains as a participant in the call session.

25. (Original) The communication system of Claim 24, wherein the call resource is further operable to maintain the call session after the call manager becomes unavailable.

26. (Original) The communication system of Claim 24, wherein the call resource is further operable to:
receive a remote on hold notification from at least one of the media streams in the call session; and
delete the at least one media stream associated with the remote on hold notification from the call session.

27. (Original) The communication system of Claim 24, wherein the call resource is further operable to notify a user at the one device that the call session is being terminated.

28. (Original) The communication system of Claim 24, wherein the call resource is further operable to:
prompt users at the devices if one or more packets indicate silence for a predetermined period of time; and
detect voice activity in the one or more packets if the users speak in response to the prompt.

29. (Original) The communication system of Claim 24, wherein the call resource is further operable to:

detect if the media streams support voice activity detection (VAD);

determine if a silence insertion descriptor (SID) packet was received from each of the media streams;

prompt users at the devices to speak if a timer expires and the SID packet was received during the call session; and

detect voice activity in one or more packets if the users speak in response to the prompt.

30. (Original) The communication system of Claim 24, wherein the call resource is further operable to:

detect if the media streams support voice activity detection (VAD);

determine if a silence insertion descriptor (SID) packet was not received from each of the media streams; and

play a prompt to the users at the devices indicating that the call session is terminating if no packets were received from the media streams.

31. (Original) The communication system of Claim 24, wherein the call resource is further operable to prompt users at the devices to speak if packets are generated by only a single media stream for a predetermine amount of time.

32. (Original) The communication system of Claim 24, wherein the call resource is further operable to prompt users at the devices to speak if at least two media streams are simultaneously and continuously generating packets for a predetermined amount of time.

33. (Original) The communication system of Claim 24, wherein the call resource is further operable to:

detect if the media streams become inactive during the call session;
prompt users at the devices to speak if the media streams are inactive; and
analyze the user responses to the prompt using adaptive speech recognition (ASR).

34. (Currently Amended) Logic encoded in media for recovering a call resource from a call session and operable to perform the following steps:

during a call session comprising a plurality of media streams each communicated from one of a plurality of devices to a call resource via a communication network, detecting if ~~a media stream communicated from a device to a call resource via a communication network~~ one of the media streams becomes inactive ~~during a call session~~;

in response to one of the media streams becoming inactive during the call session, deleting the media stream that has become inactive from the call session ~~if the media stream is inactive~~;

repeating ~~the detecting and deleting steps~~ detection and deletion of inactive media streams from the call session until only one media stream remains in the call session; and in response to only one media stream remaining in the call session, terminating the one remaining media stream to release the call resource from the call session.

35. (Original) The logic encoded in media of Claim 34, further comprising:
establishing the call session between the call resource and a plurality of devices using a call manager, the call session comprising a plurality of media streams communicated from the plurality of devices; and
determining that the call manager has become unavailable.

36. (Original) The logic encoded in media of Claim 35, further comprising:
receiving signaling from an alternative call manager to establish a new call session;
and
establishing the new call session using the released call resource.

37. (Original) The logic encoded in media of Claim 35, further comprising:
receiving a remote on hold notification from at least one of the media streams in the call session; and
deleting the at least one media stream associated with the remote on hold notification from the call session.

38. (Original) The logic encoded in media of Claim 35, wherein detecting comprises prompting users at endpoints of the media streams to speak if packets are generated by only a single media stream for a predetermined amount of time.

39. (Original) The logic encoded in media of Claim 35, wherein detecting comprises prompting users at endpoints of the media streams to speak if at least two media streams are simultaneously and continuously generating packets for a predetermined amount of time.

40. (Original) The logic encoded in media of Claim 35, further comprising notifying a user at an endpoint of the one media stream that the call session is being terminated.

41. (Original) The logic encoded in media of Claim 34, wherein detecting comprises:

prompting a user at an endpoint of the media stream if one or more packets generated by the media stream indicate silence for a predetermined period of time; and

receiving the one or more packets that indicate voice activity if the user speaks in response to the prompt.

42. (Original) The logic encoded in media of Claim 34, wherein detecting comprises:

detecting if the media stream supports voice activity detection (VAD);

determining if the call resource received a silence insertion descriptor (SID) packet;

prompting a user at an endpoint of the media stream to speak if a timer expires and the call resource received the SID packet; and

receiving packets that indicate voice activity if the user speaks in response to the prompt.

43. (Original) The logic encoded in media of Claim 34, wherein detecting comprises:

detecting if the media stream supports voice activity detection (VAD);

determining that the call resource did not receive a silence insertion descriptor (SID) packet; and

playing a prompt to a user at an endpoint of the media stream indicating that the call session is terminating if the call resource did not receive at least one packet from the media stream.

44. (Original) The logic encoded in media of Claim 34, wherein detecting comprises:

prompting a user at an endpoint of the media stream to speak if the media stream is inactive; and

analyzing a response using adaptive speech recognition (ASR).

45. (Currently Amended) An apparatus for recovering a call resource from a call session, comprising:

means for, during a call session comprising a plurality of media streams each communicated from one of a plurality of devices to a call resource via a communication network, detecting if a ~~media stream communicated from a device to a call resource via a communication network~~ one of the media streams becomes inactive ~~during a call session~~;

means for, in response to one of the media streams becoming inactive during the call session, deleting the media stream that has become inactive from the call session ~~if the media stream is inactive~~;

means for repeating ~~the detecting and deleting steps~~ detection and deletion of inactive media streams from the call session until only one media stream remains in the call session;

and

means for, in response to only one media stream remaining in the call session, terminating the one remaining media stream to release the call resource from the call session.

46. (Original) The apparatus of Claim 45, further comprising:

means for establishing the call session between the call resource and a plurality of devices using a call manager, the call session comprising a plurality of media streams communicated from the plurality of devices;

means for determining that the call manager has become unavailable;

means for receiving signaling from an alternative call manager to establish a new call session; and

means for establishing the new call session using the released call resource.

47. (Original) The apparatus of Claim 45, wherein the means for detecting comprises:

means for prompting a user at an endpoint of the media stream if one or more packets generated by the media stream indicate silence for a predetermined period of time; and

means for receiving the one or more packets that indicate voice activity if the user speaks in response to the prompt.

48. (Original) The apparatus of Claim 45, wherein detecting comprises:
prompting a user at an endpoint of the media stream to speak if the media stream is
inactive; and
analyzing a response using adaptive speech recognition (ASR).